

Arizona State Retirement System

Investment Committee

Investment Program Updates

October 20, 2014

Presented by:

Gary R. Dokes, Chief Investment Officer, ASRS

David Underwood, Assistant Chief Investment Officer, ASRS

Karl Polen, Head of Private Markets Investing, ASRS

Al Alaimo, Fixed Income Portfolio Manager, ASRS

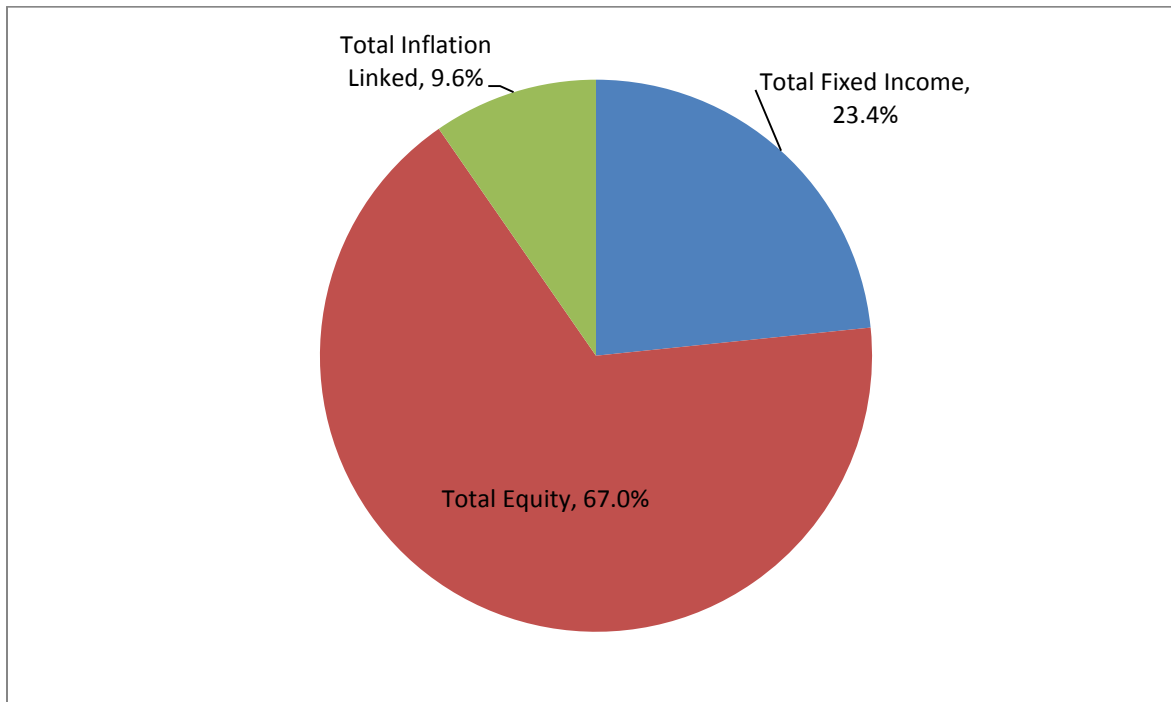
Eric Glass, Portfolio Manager of Private Markets, ASRS



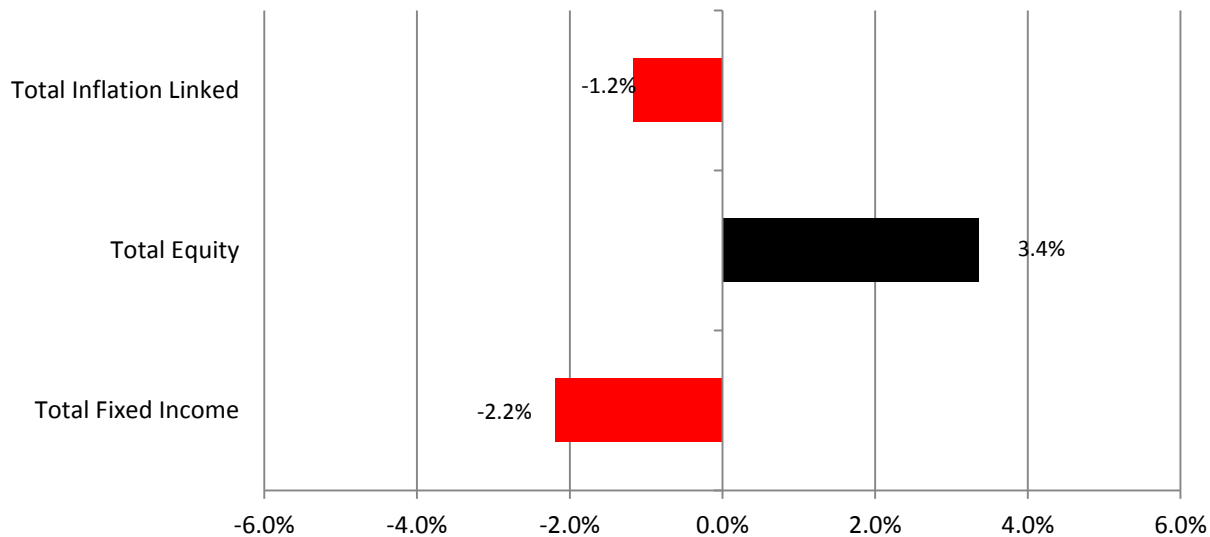
CONTENTS

Total Fund Positioning – 9/30/14	3
Arizona State Retirement System’s Investment Management House Views	6
October 2014.....	6
U.S. Equities	6
Non – U.S. Equities	7
Fixed Income	8
Real Estate.....	10
Private Equity	11
Commodities	12
Opportunistic Investments.....	13
Glossary	13
2014 ASSET CLASS COMMITTEE AND IC MEETINGS	14
Private Markets Committee (PRIVMC)	15
Tactical Portfolio Positioning	16
IMD (Investment Management Division).....	17
Activities, Projects and Research Initiatives.....	17

ACTUAL PORTFOLIO



ACTUAL PORTFOLIO (ASSUMED GTAA ALLOCATION VS. ADJUSTED SAA POLICY *)



*Real Estate and Private Equity actual weight is equal to policy weight during the implementation of the asset class.

*Over/Underweights include both GTAA positions as well as IMD tactical considerations.

Note: Opportunistic & Private Debt, Opportunistic Private Equity, Farmland & Timber, Real Estate and Private Equity market values are reported on a quarter-lag and adjusted to include the current quarter's cash flows. Within the Assumed GTAA Allocation vs. Adjusted SAA Policy chart, Real Estate was prorated to domestic equity, international equity and fixed income. Private Equity was prorated to domestic equity.

Pension (Plan, System, HBS Assets)		ASRS Market Value Report				As of: Tuesday, September 30, 2014			
Account Manager	Account Manager Style	Fixed Income		Equity		Inflation Linked		Total	Pct of Fund
		Active	Enh/Passive	Active	Enh/Passive	Active	Enh/Passive		
State Street B&T: Boston	Master Cash & Pension Acct.		331,490,228					331,490,228	0.98%
	Cash Total							\$331,490,228	0.98%
GTAA Managers (2)	Active GTAA	1,030,141,661						1,030,141,661	3.05%
Blackrock: San Francisco	Passive (Intermediate Gov Credit)		23,882,665					23,882,665	0.07%
ASRS: Phoenix	Enhanced Passive F2		1,853,745,813					1,853,745,813	5.49%
Blackrock: San Francisco	Passive (US Debt Index)		713,794,497					713,794,497	2.12%
	Core Fixed Income Total							\$3,621,564,637	10.73%
								Core Fixed Income Policy	13.00%
Columbia: Minneapolis	Active	637,443,615						637,443,615	1.89%
JP Morgan: Indianapolis	Active	324,652,051						324,652,051	0.96%
	High Yield Fixed Income Total							\$962,109,421	2.85%
								High Yield Fixed Income Policy	5.00%
	US Fixed Income Total							\$4,583,674,058	13.58%
								US Fixed Income Policy Range: 8% - 28%	18.00%
PIMCO (local): Newport Beach	Active	332,833,994						332,833,994	0.99%
Ashmore (blended): London	Active	402,415,871						402,415,871	1.19%
	EM Debt Total							\$735,249,864	2.18%
								EM Debt Policy	4.00%
	Opportunistic Debt							\$1,024,479,723	3.04%
								Opportunistic Debt Policy Range: 0% - 10%	0.00%
	Private Debt Total							\$1,212,597,914	3.59%
								Private Debt Policy	3.00%
	Fixed Income Total							\$7,887,491,787	23.37%
								Total Fixed Income Policy Range: 15% - 35%	25.00%
Intech: FL	Active (Growth)			470,079,956				470,079,956	1.39%
LSV: Chicago	Active (Value)			798,510,568				798,510,568	2.37%
GTAA Managers (2)	Active GTAA		1,172,566,285					1,172,566,285	3.47%
ASRS: Phoenix	Passive E2				4,938,827,474			4,938,827,474	14.64%
ASRS: Phoenix	Enhanced Passive E7				773,982,350			773,982,350	2.29%
ASRS: Phoenix	Enhanced Passive E8				501,116,393			501,116,393	1.49%
ASRS: Phoenix	Risk Factor Portfolio				517,200,713			517,200,713	1.53%
	Large Cap Equity Total							\$9,172,321,150	27.18%
								Large Cap Policy	23.00%
Wellington: Boston	Active (Core)			400,583,445				400,583,445	1.19%
CRM: New York	Active (Value)			98,085,114				98,085,114	0.29%
ASRS: Phoenix	Passive E3 (Growth)				488,775,845			488,775,845	1.45%
ASRS: Phoenix	Passive E4 (Value)				498,522,341			498,522,341	1.48%
	Mid Cap Equity Total							\$1,485,966,745	4.40%
								Mid Cap Policy	5.00%
TimesSquare: New York	Active SMID (Growth)			436,438,016				436,438,016	1.29%
DFA: Santa Monica	Active (Value)			376,766,167				376,766,167	1.12%
Champlain:Vermont	Active (Core)			86,912,439				86,912,439	0.26%
ASRS: Phoenix	Passive E6				451,373,344			451,373,344	1.34%
	Small Cap Equity Total							\$1,351,489,966	4.01%
								Small Cap Policy	5.00%
	U.S. Equity Total							\$12,009,777,861	35.59%
								US Equity Policy Range: 26% - 38%	33.00%
Brandes: San Diego	Active (Value)			569,428,520				569,428,520	1.69%
GTAA Managers (2)	Active GTAA		1,072,271,887					1,072,271,887	3.18%
American Century	Active (EAFE)		505,026,349					505,026,349	1.50%
Trinity Street	Active (EAFE)		324,343,849					324,343,849	0.96%
Thompson Siegel Walmsley	Active (EAFE)		152,111,136					152,111,136	0.45%
Blackrock: San Francisco	Passive (EAFE)				2,302,385,160			2,302,385,160	6.82%
	Large Cap Developed Non-US Equity Total							\$4,927,849,242	14.60%
								Large Cap Developed Policy	14.00%
AQR: Greenwich	Active (EAFE SC)			169,823,937				169,823,937	0.50%
DFA: Santa Monica	Active (EAFE SC)			210,822,356				210,822,356	0.62%
Franklin Templeton: San Mateo	Active (EAFE SC)			381,083,311				381,083,311	1.13%
Blackrock: San Francisco	Passive (EAFE SC)				441,039,138			441,039,138	1.31%
	Small Cap Developed Non-US Equity Total							\$1,202,771,528	3.56%
								Small Cap Developed Policy	3.00%
William Blair: Chicago	Active (EM)			465,818,201				465,818,201	1.38%
Eaton Vance: Boston	Active (EM)			508,014,845				508,014,845	1.51%
LSV: Chicago	Active (EM)			307,016,669				307,016,669	0.91%
Blackrock: San Francisco	Passive (EM)				677,025,836			677,025,836	2.01%
	Emerging Markets Equity Total							\$1,957,875,551	5.80%
								Emerging Markets Policy	6.00%
	Non-US Equity Total							\$8,088,496,321	23.97%
								Non-US Equity Policy Range: 16% - 28%	23.00%
	Private Equity Total							\$2,158,643,330	6.40%
								Private Equity Policy Range: 5% - 9%	7.00%
	Opportunistic Equity							\$345,741,377	1.02%
								Opportunistic Equity Policy Range: 0% - 3%	0.00%
	Equity Total							\$22,602,658,888	66.98%
								Total Equity Policy Range: 53% - 73%	63.00%
Gresham: New York						769,190,896		769,190,896	2.28%
GTAA Managers (2)	Active GTAA					342,348,057		342,348,057	1.01%
	Commodities Total							\$1,111,538,953	3.29%
								Commodities Policy Range: 1% - 7%	4.00%
GTAA Manager (1)	Active GTAA					52,030,819		52,030,819	0.15%
	Real Estate Total							\$2,026,837,386	6.01%
								Real Estate Policy Range: 6% - 10%	8.00%
	Infrastructure Total							\$0	0.00%
								Infrastructure Policy Range: 0% - 3%	0.00%
	Farmland & Timber Total					116,026,109		\$116,026,109	0.34%
								Farmland & Timber Policy Range: 0% - 3%	0.00%
	Opportunistic Inflation Linked Total							\$0	0.00%
								Opportunistic I/L Policy Range: 0% - 3%	0.00%
	Inflation Linked Total							\$3,254,402,448	9.64%
								Inflation Linked Policy Range: 7%-15%	12.00%
	TOTAL Amounts	\$3,940,098,860	\$3,947,392,927	\$11,012,372,883	\$11,590,286,004	\$3,370,428,556	\$0	\$33,744,553,123	Total Fund
	TOTAL Percent	11.68%	11.70%	32.63%	34.35%	9.99%	0.00%		

Asset Class	Actual Portfolio	SAA Policy: Target (Range)	Rebalancing		Assumed - Adjusted		Policy Band check Actual - Adj	Passive Min	Passive Actual
			Assumed Port	Adj Policy	% diff	\$ diff			
Cash	0.98%								
Core	10.73%	13%						50%	72%
High Yield	2.85%	5%							
US Fixed Income	13.58%	18% (8-28%)	14.56%	18.56% (9-29%)	-4.00%	-\$1,349,940,021	OK		
EM Debt	2.18%	4%		4.00%					
Opportunistic Debt	3.04%	0% (0-10%)	3.04%	0% (0-10%)	3.04%	\$1,024,479,723	OK		
Private Debt	3.59%	3%		3.00%					
Total Fixed Income	23.37%	25% (15-35%)	23.37%	25.56% (16-36%)	-2.19%	-\$739,731,237	OK		
Large Cap	27.18%	23%							
Mid Cap	4.40%	5%							
Small Cap	4.01%	5%							
US Equity	35.59%	33% (26-38%)	36.79%	34.46% (27-39%)	2.33%	\$786,585,350	OK	50%	66%
Developed Large Cap	14.60%	14%							
Developed Small Cap	3.56%	3%							
Emerging Markets	5.80%	6%							
Non-US Equity	23.97%	23% (16-28%)	23.51%	23.5% (16-28%)	0.01%	\$4,135,176	OK	30%	49%
Private Equity	6.40%	7% (5-9%)	6.40%	6.4% (4-8%)	0.00%	\$0	OK		
Opportunistic Equity	1.02%	0% (0-3%)	1.02%	0% (0-3%)	1.02%	\$345,741,377	OK		
Total Equity	66.98%	63% (53-70%)	67.72%	64.36% (54-71%)	3.37%	\$1,136,461,903	OK		
Commodities	3.29%	4% (1-7%)	2.71%	4.08% (1-7%)	-1.37%	-\$460,725,955	OK		
Real Estate	6.01%	8% (6-10%)	5.85%	6.01% (4-8%)	-0.15%	-\$52,030,819	OK		
Infrastructure	0.00%	0% (0-3%)	0.00%	0% (0-3%)	0.00%	\$0	OK		
Farmland & Timber	0.34%	0% (0-3%)	0.34%	0% (0-3%)	0.34%	\$116,026,109	OK		
Opportunistic I/L	0.00%	0% (0-3%)	0.00%	0% (0-3%)	0.00%	\$0	OK		
Total Inflation Linked	9.64%	12% (8-16%)	8.91%	10.09% (6-14%)	-1.18%	-\$396,730,665	OK		
Total	100.00%	100%	100.00%	100.00%	0.00%	\$0		30%	43%
Total GTAA								Internally Managed Portfolios:	
Bridgewater	\$3,081,439,856	9.1%						\$9,506,343,561	
Windham	\$587,918,854	1.7%							
Total	\$3,669,358,709	10.9%							
Policy	10% ±5%	OK							
								Opportunistic definitions:	
								1) Tactical in nature: Function of market dislocation AND	
								2a) Outside SAA benchmark, OR	
								2b) Within SAA benchmark but absolute return oriented	

(Notable changes from the previous month are highlighted in RED)

OCTOBER 2014

U.S. EQUITIES

Primary Market Metrics & Indicators:

1. Fundamentals: **POSITIVE**

- Economic data suggests stable, sub-trend growth into 2015.
- U.S. unemployment, persistently high until recently is displaying sustained improvement although income growth has not despite some anecdotal evidence of isolated upward pressure on wages.
- At risk longer term due to stimulus measures; inflation remains generally subdued.
- Liquidity remains ample; Federal Reserve policy is still accommodative even as it scales back its asset purchases program.
- Overall U.S. corporate profits are still growing, but with decelerating momentum; revenues have begun trending up modestly although high profit margins are no longer expanding.

2. Valuations: **NEUTRAL**

- A sell down in late September eroded August's gains; prices and valuations of major indices are back to those of late July. P/E ratios (forward) are virtually the same as the late spring 2014 levels. Though marginally rich, they remain near historic averages: S&P 500, 14.7x-16.2x, S&P MID, 1635x-18.8x; S&P SC600, 16.3x-20.0x.
- Historic P/Es imply advances of 5-10% for mid and small caps; 9-12% for S&P 500.
- Still rising earnings and low yields on 10-Yr Treasury notes combine for equity risk premiums that are favorably above the 4.0% long-range average for large caps, but market advances have trimmed those of mid- and small-caps to near 3.0%.

3. Sentiment: **NEUTRAL**

- Short-term caution has moved up a notch following the sustained advance of equity markets throughout 2013 and ¾ of 2014 without a significant pullback.
- Lessened near-term equity market volatility (i.e., VIX Index) still reflects growing acceptance of risk-oriented assets.
- Asset flows that had gone to bonds and non-U.S. equities until 2013 continue to shift toward equities, though not necessarily to stock mutual funds

Commentary:

Throughout 1Q2014, Staff systematically pared back the allocation of U.S. stocks to address capital calls in the Plan's private equity and real estate asset classes. Proportionally more was withdrawn from the smallcap and midcap sub-classes. Strong price advances in 2013 outpaced earnings growth in these categories to the extent that their short-run risk premiums are less compelling than the larger-cap counterparts. This has also been

reflected in the waning performance of smallcap stocks *relative* to largecap and midcap counterparts over 2014. Smallcaps are off by about 4.3%; largecaps and midcaps are up 6.5% and 1.6%, respectively.

Notwithstanding some opinions that prices of U.S. stocks are greatly overextended and thus due for a precipitous decline, data suggests otherwise. Valuations of domestic equities are full, but generally don't yet exceed long-term average valuations by much. Business conditions are constructive if not vibrant. Moreover, the equity markets have been resilient in spite of unsettling political events and have rebounded on shallow dips over 2014. Rather than setting up for an abrupt decline, in re-rating over the past year, the markets have pulled forward some return from future periods. This implies that future equity returns will still be available; they just are unlikely to be of the magnitude as those experienced over the past year.

This drives our now "NEUTRAL" opinion on Sentiment and the unchanged opinions of "POSITIVE" on Fundamentals and "NEUTRAL" on Valuations. **Employing that tactically, Staff may move some U.S. Equity assets to liquidity and the Fund's other strategies over the course of the next two-to-three months.** Reallocations of U.S. Equity over the past year subsidized some of the Plan's monthly obligations, but moved mostly to the Fund's non-public, private markets asset classes. The U.S. Equities asset class, sans the GTAA component, and its subclasses are stands marginally below (SAA) policy weight.

CURRENT PORTFOLIO POSTURE: **Overweight** vs. SAA target

NON – U.S. EQUITIES

Primary Market Metrics & Indicators:

1. Fundamentals: **NEUTRAL (from POSITIVE)**
 - Subpar GDP growth in the Eurozone has begun to look less recessionary while that of the lesser-developed economies remains off its pace, but comparatively stronger.
 - Relatively inexpensive and available money supports a shift toward risk assets.
 - Monetary and economic policies are focused on controlling economic growth and fiscal stability.
2. Valuations: **POSITIVE**
 - Reasonable global valuations relative to U.S.; price-to-book values of 1.4x - 1.6x; P/Es of 13.0x – 16.0x on trend earnings.
 - Dividend yields are incrementally more favorable with most ranging from 1.5x to 1.6x that of the S&P500.
3. Sentiment: **POSITIVE**
 - Money flows continue toward both U.S. and non-U.S. equities; excepting the emerging economies markets, investors are less guarded and remain constructive on global risks.
 - Major non-U.S. markets performances are keeping pace with those of the U.S.

Commentary:

Global equities markets sold off in September, both sooner and somewhat more deeply than U.S. counterparts and attributable more to a short term swing in confidence than anything dire. Until this recent episode, global equities had been responding positively to stabilizing, though not buoyant, economic momentum across major economies.

That setting is unchanged. Global growth remains asymmetrical and overall sluggish necessitating a number of economic stimulus programs. These are channeling liquidity to the markets, offsetting the effects of

deleveraging as the ensuing money moves into risk assets, primarily equities. That redirection of money away from goods and services is accentuating lethargic, non-inflationary economic growth in principal economies. If anything, those economies face higher risks of deflation.

Available liquidity is supportive for re-rating equity risk premiums. Equity risk premiums on international stocks of over 5% exceed those of the U.S. by about 100 basis points. Both imply ample compensation for investment, more so for the former. Falling yields among high-yield bonds and other compressions of credit spreads are further magnifying the relative advantage available in current equity risk premiums.

The Japanese equities markets continue to be challenged after responding well earlier in 2013. Through 2014, they have followed the overall pattern of the global markets with similar returns. Japanese economic reform continues, but the markets are waiting for follow-on to the Abe policies in the form of programs aimed at the supply side. Earlier solid gains in personal consumption from the spurt of income growth have proved vulnerable to the higher 8% VAT. Most remain of the opinion that the Bank of Japan will need to ease additionally if hoped-for 2% annualized inflation targets are to be met. The bulk of the rise in inflation so far this year has come via higher import prices, which now are set to fall back. This suggests the BoJ will need to expand its program of bond purchases in 2H2014, and possibly further broadening of quantitative easing. Still, the

Emerging markets (EM) overall, are enigmatic, but of late are trading more favorably. Having undergone two years of price correction, valuations for the most part remain attractive as compared to those of the developed economies. But an inherent “value trap” persists, as economic fundamentals continue to shift about for the larger countries, weaken for those with large external debt balances yet are surprisingly solid for many others. Up until recently, capital was withdrawn indiscriminately from EM equity markets, despite select opportunities at the specific company level. Staff intends to maintain the modest underallocation versus SAA policy target as both these equilibrations unfold.

Staff has kept U.S. and overall Non-U.S. equities allocations more neutral to SAA policy since late 4Q2013. It had wanted to see sustainably stronger global economic growth relative to that of the U.S. before increasing the relative proportion of Non-U.S. equities. As those preconditions have yet to materialize, it will continue the current allocations.

CURRENT PORTFOLIO POSTURE: *Approx. Equal Weight* vs. SAA target

FIXED INCOME

Primary Markets Metrics & Indicators:

1. Fundamentals: **NEUTRAL**

- Over the past few years, fundamentals in the fixed income markets have been dominated by an extremely accommodative monetary policy by the Federal Reserve. This has included massive, unprecedented bond buying programs of both treasury bonds and agency MBS securities known as “quantitative easing” that began in 2009 during the credit crisis and continues to this day. The Fed has now gradually begun to reduce its monthly purchases with a potential complete cessation of bond buying by the end of this year. In addition, the Fed has pledged to keep short-term rates near zero over an extended time depending on select economic targets and conditions. While these policies have kept interest rates artificially low, the **eventual** cessation of bond buying activities along with an improving U.S. economic outlook could lead to higher interest rates over an intermediate to long-term time frame.

- In the near-term, long-term interest rates have fallen in 2014 in response to a combination of factors including some disappointing economic data, concerns about global growth, some geopolitical uncertainty (ex. Ukraine), subdued inflation expectations and possible short covering by investors positioned for rising rates.

2. Valuations: **NEGATIVE**

- The core fixed income market is relatively unattractive due to low overall yields as Treasury rates remain at low levels, investment-grade credit spreads are relatively tight and spreads on agency MBS are somewhat compressed due to aggressive buying by the Fed. Ultimately, we believe the Fed will end its aggressive bond buying, and Treasury rates will rise over the intermediate-term from artificially low levels in the current market. That being said, core fixed income remains a safe haven in times of market turbulence and tends to perform well when risky assets such as equities sell off.
- With a benign outlook for corporate defaults and an overall demand in the market for yield, the valuation of high yield bonds has substantially compressed since mid-2012. As a result, the market has lost much of its return potential relative to prior years and will likely achieve low to mid-single-digit returns this year. **Recently, the high yield market has become more attractive as both spreads and yields have increased due to technical selling pressure.**
- While emerging market debt denominated in local currencies offers attractive yields, it comes with the added risk that emerging market currencies depreciate in value relative to the U.S. dollar resulting in poor returns as happened **both in 2013 and in the third quarter of this year.** Of most concern is the potential for a sustained period of US dollar appreciation as has occurred periodically in the past (such as the 1990's) that could adversely affect the returns of EM local currency debt going forward.
- Private debt offers the most attractive opportunity in the fixed income markets with double-digit yields readily available for investors willing to accept illiquidity.
- Select areas of opportunistic debt such as distressed debt (both corporate and structured credit) and excess mortgage-servicing rights ("MSRs") also offer opportunities to potentially achieve double-digit returns.

3. Sentiment: **NEUTRAL**

- Following a multi-decade period of declining interest rates, IMD has modest concerns that investors sentiment is shifting away from fixed income. That being said, going forward, IMD believes demand will continue for income producing assets particularly those which offer a yield premium.

Commentary:

IMD remains underweight in its overall fixed income target due to the relatively low yields offered in the public fixed income markets as well as the risk of potentially higher treasury rates. ASRS is currently underweight in its SAAP target for core fixed income, high yield and emerging market debt. While core fixed income offers important defensive characteristics to potentially balance out the overall risks of the total fund portfolio, low levels of U.S. Treasuries and generally tight spreads in the investment-grade bond markets make it generally unattractive.

Furthermore, IMD remains concerned about the potential for higher Treasury rates and the impact on returns for core fixed income, should the Fed completely end its quantitative easing programs. In high yield, which historically is less sensitive to higher interest rates, spreads have compressed to levels which make potential returns much less compelling than in prior years. In emerging market debt, we are concerned about the currency risk embedded in the local currency bond markets of this asset class.

IMD sees the most attractive opportunities in fixed income in select credit markets -- particularly private debt and opportunistic debt -- where compelling yield and total return opportunities exist. Opportunistic debt includes a number of mandates such as distressed debt and structured asset-backed securities that are likely to provide very attractive returns. Since December, we have established two new multi-strategy mandates with strategic partners in opportunistic debt to take advantage of potential investment opportunities as European banks disgorge troubled fixed income assets.

CURRENT PORTFOLIO POSTURE: UNDERWEIGHT vs. SAA target

REAL ESTATE

Primary Market Metrics & Indicators:

1. Fundamentals: **POSITIVE**

- Improved levels of demand and easing credit conditions, combined with broad improvement in the economy, are supportive of continued expansion of commercial lending and building. Better levels of occupancy while there is a lack of construction has resulted in rising rents.
- Our review of property market fundamentals leads to emphasize apartments, industrial properties, medical office buildings, senior housing self-storage, and student housing in our current investing efforts for demographic and macro policy reasons.
- There are relatively few foreclosures on high quality property, but there continues to be pressures on refinancing of legacy leverage structures and we participate in those transactions through several of our manager relationships.
- Single family housing continues to exhibit tight supply and moderate demand driven by healing household balance sheets, improved employment conditions, and continued affordability. This should lead to reacceleration of new construction and continued moderate price increases. Recovery in construction and NOI has been led by apartments to date.

2. Valuations: **NEUTRAL**

- On a total market basis, valuations have recovered from recession lows but are still about 5% below prior peak. However, coastal markets have rebounded more strongly than interior markets.
- High quality coastal market properties are trading at historic low cap rates; however these cap rates still reflect approximately a normal spread to treasury. The financing market for assets of this quality has recovered and supports these valuations by providing fixed rate financing that mitigates the risk of later cap rate expansion. International investors looking for safe assets have contributed to demand in the coastal markets.
- Recent increases in treasury rates do not appear to have affected commercial real estate valuations. Many observers believe that ~100bps of rate increase was already discounted into cap rates.
- At the end of August, REITs are trading at a 4% premium to NAV with an average dividend yield of 3.7%. This reflects a 120bps spread to the 10 year treasury, which is a bit higher than the historical average of 108bps.

3. Sentiment: **POSITIVE**

- U.S. focused real estate fund raising rose 13% to \$76 billion per year. U.S. focused dry powder has trended down to approximately \$80 billion.
- Global commercial real estate transaction volume peaked at around \$700 billion in 2007, but dropped to about a third of that during the global financial crisis. Current volume of approximately \$550 billion is double the recession trough, but still well below the peak.

- Debt availability has improved considerably since the depth of the recession, but is still tight by historic standards for all but the most desirable properties. Construction financing remains a considerable challenge, even for well justified projects.

Commentary:

IMD continues to implement its separate account real estate strategic manager program. ASRS adopted an updated pacing and implementation plan in December, calling for \$500 million in new commitments in 2014 including \$350M allocated to niche and tactical opportunities.

CURRENT PORTFOLIO POSTURE: Underweight vs. SAA target (in program funding/build-out phase)

PRIVATE EQUITY

Primary Market Metrics & Indicators:

1. Fundamentals: **POSITIVE**

- The U.S. economy continues to show steady improvement.
 - ◊ The energy sector is dynamic with massive new investment in “tight oil” and related infrastructure and services, with supply improvements also resulting in improved energy efficiency particularly of benefit to manufacturers.
 - ◊ Healthcare is being reshaped to implement the requirements of “Obamacare”
 - ◊ The U.S. continues to be a global leader in technology innovation.
- Europe continues to struggle in recovering from the financial crisis although recent data suggests a pickup in economic activity. Its problems are exacerbated by a unified currency without unified fiscal policy and it is expected to experience a very slow recovery.
- Emerging markets have slowed while the largest emerging markets are transitioning to focus on domestic consumption.

2. Valuations: **NEUTRAL**

- Purchase price multiples in 2013 (through Q3) were 8.4x, roughly flat from 2012 levels and below 2007 peak valuations. Over the course of 2013, large deal multiples rose from 10x to 11x while small deals fell from 4.0x to 2.5x.
- The leveraged loan and high yield debt markets were active in 2013 reaching multi-year highs for net issuance, albeit principally for refinancing. Single B high yield spreads have recently dipped below **350 bps earlier in the summer but has recently widened**.
- Total leverage in 2013 (through Q3) ticked up to 5.3x from 5.1x in 2012, although still down ~0.8x turn from the 2007 peak.

3. Sentiment: **NEUTRAL**

- Globally, year-to-date \$236B (417 funds) have closed through Q2 2014 compared to \$522B (1,097 funds) closed in aggregate for 2013. Dry powder of nearly \$1.2T globally in all categories rose from \$1.1T at the end of 2013.
- The global number of buyout deals rose from 732 in Q1 to 766 in Q2 2014 while the aggregate value of deals remained approximately flat at \$80B. **Some partners are reporting improved deal flow and valuation expectation with the late summer drop in public equities.**
- Exits rose in Q2 2014 to 394 at an aggregate value of \$137B representing the second highest count and the highest value since Q2 2006.
- The IPO market in Q2 2014 had the largest value of exits (\$30B) in 4 quarters.

Commentary:

Areas of emphasis are U.S middle market buyout with focus on managers with strong operational capability. Vertical strategies in energy, healthcare and technology are under consideration. IMD will reduce emphasis on large buyout strategies though larger managers with specialized deal flow remain of interest. IMD will continue to monitor Europe for a favorable reentry point. IMD's pacing plan calls for \$550M in commitments for 2014, with an additional \$50M carried over from 2013.

CURRENT PORTFOLIO POSTURE: Underweight vs. SAA target (in program funding/build-out phase)

COMMODITIES

Primary Market Metrics & Indicators:

1. Fundamentals: **NEGATIVE**

- The Fed continued to taper its QE program by \$10B per month and reiterated that inflation continues to run below the FOMC's long-term objective.
- Recent data indicates the US economy has momentum but most commodity sectors appear well supplied, particularly for the current global growth environment.
- Nearly 75% of the corn & soybean crops are rated good/excellent, ahead of last year at this time. Energy markets reflect the continued growth in US production as the Brent/WTI spread continues to narrow. Metals have been mixed as precious metals have benefitted as a US dollar hedge while industrial metals still exhibit weak demand.

2. Valuations: **NEUTRAL**

- The index rose to nearly 280 in April 2014 but has steadily sold off to its current level of 260.
- YTD: coffee, nickel, & hogs have been the leaders; cotton and corn are the biggest laggards.
- The index on a year-to-date basis is up 2.9%, modest ag losses offset by modest gains in energy and precious metals.

3. Sentiment: **NEUTRAL**

- The moderate growth and inflation environment in the U.S. year-to-date has tempered investor enthusiasm for commodities and resulted in modest inflows into commodities.
- Exogenous geopolitical shocks have not resulted in price spikes; weather has been favorable.
- Looking across the individual commodities, most remain well supplied, which has been reflected in prices as inflationary fears have abated.

Commentary:

IMD has maintained a tactical underweight relative to the SAAP during 2013 and into 2014 after recognizing the potential effects of Fed tapering and Chinese transition. IMD recognizes that Fed tapering will be data dependent but the Fed has been clear about its intention to reduce stimulus. China's transition to a more consumer oriented economy will be gradual but the era of infrastructure build-out which fueled a portion of the demand for commodities is abating. IMD will closely monitor the growth and inflation dynamics globally with improving economic conditions and inflationary pressures serving as a catalyst which may initiate a neutral position.

CURRENT PORTFOLIO POSTURE: Underweight vs. SAA target

OPPORTUNISTIC INVESTMENTS

IMD continues to monitor and assess co-investment flow from real estate, private equity and debt managers for select opportunistic investments with favorable capital market dynamics. Opportunistic investments are tactical in nature AND are outside ASRS SAAP benchmarks or absolute return oriented.

CURRENT PORTFOLIO POSTURE: Approx. 4.1% of ASRS TOTAL MARKET VALUE

GLOSSARY

Commentary: Provides verbiage on 1) the current asset class market environment and possible changes to this environment and 2) ASRS asset class portfolio positioning relative to ASRS SAA policy, its rationale for positioning and anticipated changes which may occur in such positioning.

Current Portfolio Posture: Indicates ASRS asset class position relative to its asset allocation policy weight. “Overweight” indicates an asset class weight is greater than its policy target, “Neutral” indicates an equal weight and “Underweight” indicates a lesser weight than its policy target.

Investment House Views: Synthesizes IMD’s current and forward-looking investment perspectives and tactical positioning in asset classes and investment strategies in which the ASRS invests.

Primary Market Metrics and Indicators: Broadly-defined metrics (Fundamentals, Valuations, and Sentiments) applied universally to ASRS asset classes and used collectively to evaluate existing market conditions. Indicators (“Positive,” “Neutral” and “Negative”) reflect IMD’s existing views of these metrics and, in addition to other factors, generally determine the basis for the existing (and possible future changes) to ASRS aggregate portfolio position relative to or within ASRS SAA policy targets.

2014 Asset Class Committee and IC Meetings										
2014		Asset Class Committees				Board Committee		Grand Totals		
		Private Market Committee (PRIVMC)		Public Market Committee (PUBMC)		Investment Committee (IC)				
Quarter	Month	Dates		Total	Dates	Total	Dates		Total	
1 st	January	1/15	1/31	2	1/31	1	1/31	1	9	
	February	2/21		1			2/20	2/24		2
	March	3/24		1	3/27	1				
2 nd	April	04/22		1	04/17	1	04/21	1	9	
	May	05/12	05/27	3						
		05/28								
	June	06/19	06/26	2			06/23	1		
3 rd	July	07/01	07/14	3					7	
		07/21								
	August	08/08	08/20	2			08/18	1		
	September	09/23		1						
4 th	October									
	November									
	December									
Totals				16		3		6	25	

PRIVATE MARKETS COMMITTEE (PRIVMC)

08/08/14:

➤ **Real Estate Investments**

- The Committee approved the recommendation made by RCLCO to accept Rabobank as a depository institution for the Sacramento property.

08/20/14

➤ **Private Equity Program**

- The Committee approved a \$75 million commitment to Blackstone Energy Partners (BEP) II, a firm focused on energy and natural resources investments. ASRS has previously invested in BEP I and has a relationship with Blackstone on several platforms.
- The Committee approved a \$75 million commitment to CenterBridge Capital Partners III, a firm founded by principles from Blackstone and Angelo Gordon to assemble a team with dual disciplines in credit and operations to allow them to pursue opportunity in liquid and illiquid credit markets, distressed for control and buyout transactions.
- The Committee approved a \$25 million co-investment with Apollo Global Management in the acquisition of certain energy assets from Encana Corporation.

➤ **Real Estate Investments**

- The Committee approved a sale to Forest City of its partnership interest in the B2 building at a price of \$40.5 million. That sale has since closed at the agreed price.
- The Committee approved a variance allowing CIM to pursue an apartment development project in the Westchester area of Los Angeles, CA. RCLCO advised the ASRS that the project economics and location are desirable for long-term investment as part of the ASRS strategic real estate program.

09/23/14

➤ **Real Estate Investments**

- The Committee approved a \$50 million commitment to Related Energy Housing fund as part of the niche and tactical investment program. This partnership will invest in residential properties, primarily apartments, in areas of energy development and tight housing conditions.
- The Committee approved a \$100 million commitment to Blackstone Property Partners. This open end partnership will invest in larger properties and portfolios attempting to attain favorable value entry points taking advantage of Blackstone's market stature in transactions of this sort.
- The Committee approved continuing due diligence on Red Mill Capital, an owner/operator of retail centers. ASRS is considering a programmatic joint venture with them to invest properties of this type.
- The Committee approved continuing due diligence on CIM co-invest. CIM is offering a co-invest in a condo conversion and retail project in lower Manhattan.
- The Committee approved a \$50 million commitment to Wynnchurch III, a deep value oriented lower middle market firm focused on lower tech industries.

TACTICAL PORTFOLIO POSITIONING

Asset class tactical positioning is a function of Investment House Views and an assessment of relative value between ASRS asset classes and their positioning to ASRS Strategic Asset Allocation Policy (SAAP).

Since the August IC meeting, no significant tactically asset class repositionings have occurred. However, recent funding of internal and external cash flows has primarily come from public core fixed income given their historical absolute low yields and risk premium spreads and that, over this same period, capital calls were primarily to fund private and opportunistic debt.

The more notable SAA policy underweights reside in high yield, EM debt relative and commodities. The CIO will discuss these tactical portfolios repositioning in more detail at the IC meeting.

Note: tactical portfolio positioning is captured in the ASRS Asset Allocation report; the performance results of tactical positioning (vs. policy targets) are reflected in the ASRS Quarterly Total Fund Performance Attribution Analysis.

IMD (INVESTMENT MANAGEMENT DIVISION) ACTIVITIES, PROJECTS AND RESEARCH INITIATIVES

- Research and discussions continue regarding ASRS Asset Allocation Policy Study. As part of this process, ASRS is reviewing capital market assumptions for both a short-to-intermediate (3-5yrs) and long-term (20+ years) in addition to the topics of passive/active in public markets and structural reporting changes associated with tactical cash and GTAA. The Study is anticipated to be discussed with the IC in December with subsequent Board discussions and recommendations for approval in Q1-15.
- The redesigned ASRS securities lending program was implemented on October 1st after final contract negotiations with State Street. The program includes two parts: 'agency lending' via State Street to create a conservative strategic lending program and 'opportunistic lending' to profit from relatively large or one-off individual lending transactions, the latter of which will be evaluated and approved on a case-by-case basis by the Director and CIO.
- ASRS enhanced cash management program is awaiting final review and approval by the Director and CIO with implementation occurring in the next 30-45 days. The goals of the program are to provide required Fund liquidity, mitigate cash drag, minimize transaction costs and optimize manager portfolios rebalancing.
- For the private debt asset class, IMD staff has conducted an extensive search for a European direct lending manager to invest in senior secured loans for middle market companies in that region. A staff consultant is currently completing due diligence on the finalists in the search.
- IMD held an investment seminar with H2, one of ASRS private real estate debt managers, who facilitated a discussion of the market structure and current trends in commercial real estate loan market. The next scheduled seminar will be on bankruptcy and distressed investing and will be held on November 20.
- As a standard course of business, IMD meets with both incumbent and potential investment managers to discuss macro-economies and capital markets as well as providing a means to review new initiatives, relationships and new strategy offerings. Since the last IC meeting, IMD has met via conference call or in-person with a total of 62 investment managers: Private markets (RE, PE, Debt) – 22 and Public markets (Equity and Debt) – 40.
- IMD internally manages 7 public equities and fixed income portfolios which had an aggregate market value of over \$9.5 billion or 28% of Total Fund. For the 1-year ending August 31, 3 of 7 met or exceeded their benchmarks, and 7 of 7 portfolios met or exceeded their benchmarks on an inception-to-date basis.